

1 **WHAT IS CLAIMED IS:**

2 1. A solar energy pulse charging device comprising:

3 a solar-powered panel used as a power source of the solar energy
4 charging device;

5 a charging unit electrically connected to the solar-powered panel,
6 the charging unit including a battery parallel connected to a light dependent
7 resistor and a charging switch, a first transistor switch electrically connected
8 to the control unit, the charging unit collecting the power form the
9 solar-powered panel in a maximum efficiency and save the power in the
10 battery;

11 a control unit electrically connected to the charging unit and
12 driving the charging unit to charge due to the first transistor switch and the
13 charging switch, the control unit including a system-on-chip (SOC) and a
14 first integrated circuit (IC), the SOC having multiple pins respectively
15 electrically connected to that of the first IC, the first IC transforming voltage
16 signals from the light dependent resistor into frequency signals that are
17 transmitted to the SOC for the SOC to execute formula procedures;

18 a flyback circuit electrically connected to the charging unit, the
19 flyback circuit including a second transistor switch and a closed switching
20 regulator, wherein the SOC of the control unit controls the second transistor
21 switch and the second transistor switch controls the closed switching
22 regulator, the second transistor switch closing the closed switching regulator
23 when receiving the signals from the SOC, the second transistor switch and
24 the closed switching regulator executing a discharge control to the charging

1 unit, the flyback circuit is further electrically connected to a load and
2 providing multiple independent power sources each having a unique
3 reference potential;

4 a feedback voltage regulator circuit electrically connected to the
5 flyback circuit, the feedback voltage regulator circuit including a second IC
6 for measuring the voltage of the load and controlling the flyback circuit to
7 make the load in a constant voltage; and

8 a cyclic start circuit electrically connected to the feedback voltage
9 regulator circuit, the cyclic start circuit transmitting back the frequency
10 signals from the first IC to the SOC that controls the cyclic start circuit for
11 starting controlling the feedback voltage regulator circuit and the flyback
12 circuit.

13 2. The charging device as claimed in claim 1, wherein a variable
14 resistor series connected to the light dependent resistor to adjust the
15 sensibility of the light dependent resistor of the charging unit for suiting the
16 surrounding environment.

17 3. The charging device as claimed in claim 1, wherein the charging
18 switch is a metal-oxide-semiconductor field-effect transistor (MOSFET).

19 4. The charging device as claimed in claim 1, wherein the closed
20 switching regulator is a metal-oxide-semiconductor field-effect transistor
21 (MOSFET).

22 5. The charging device as claimed in claim 1, wherein the load is a
23 light emitting diode (LED).

24 6. The charging device as claimed in claim 2, wherein the charging

1 switch is a metal-oxide-semiconductor field-effect transistor (MOSFET).

2 7. The charging device as claimed in claim 2, wherein the closed
3 switching regulator is a metal-oxide-semiconductor field-effect transistor
4 (MOSFET).

5 8. The charging device as claimed in claim 2, wherein the load is a
6 light emitting diode (LED).

7 9. The charging device as claimed in claim 3, wherein the closed
8 switching regulator is a metal-oxide-semiconductor field-effect transistor
9 (MOSFET).

10 10. The charging device as claimed in claim 3, wherein the load is a
11 light emitting diode (LED).

12 11. The charging device as claimed in claim 4, wherein the load is a
13 light emitting diode (LED).

14